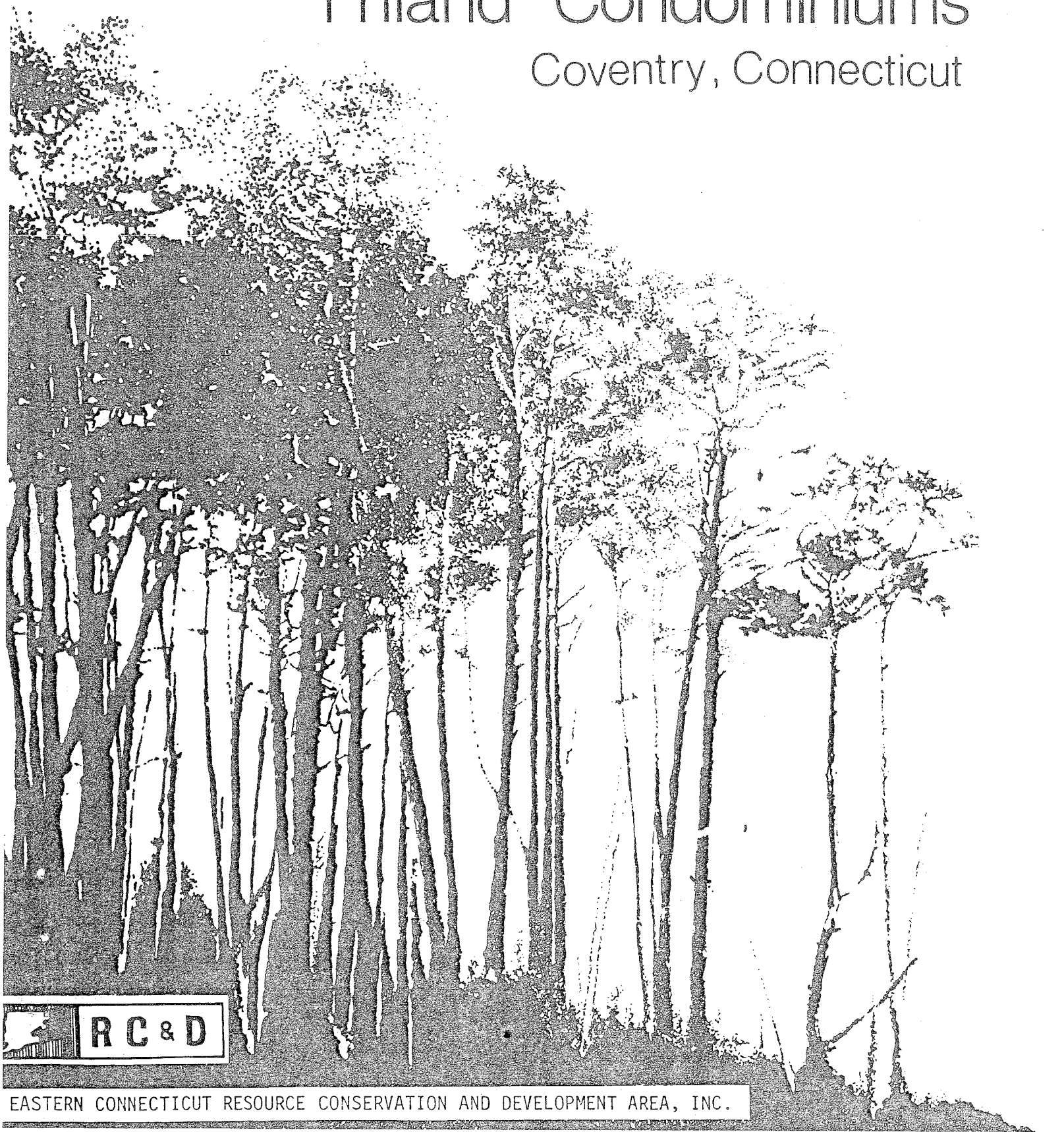
Environmental Review Team Report

Friland Condominiums

Coventry, Connecticut



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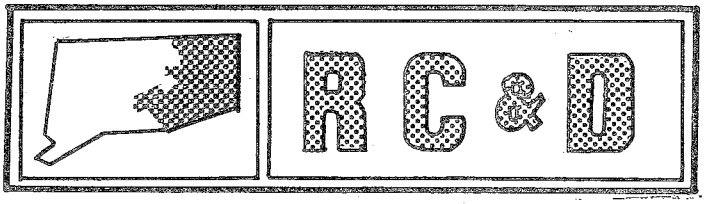
EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT AREA, INC.

Environmental Review Team Report
on

Friland Condominiums
Coventry, Connecticut

March 1982

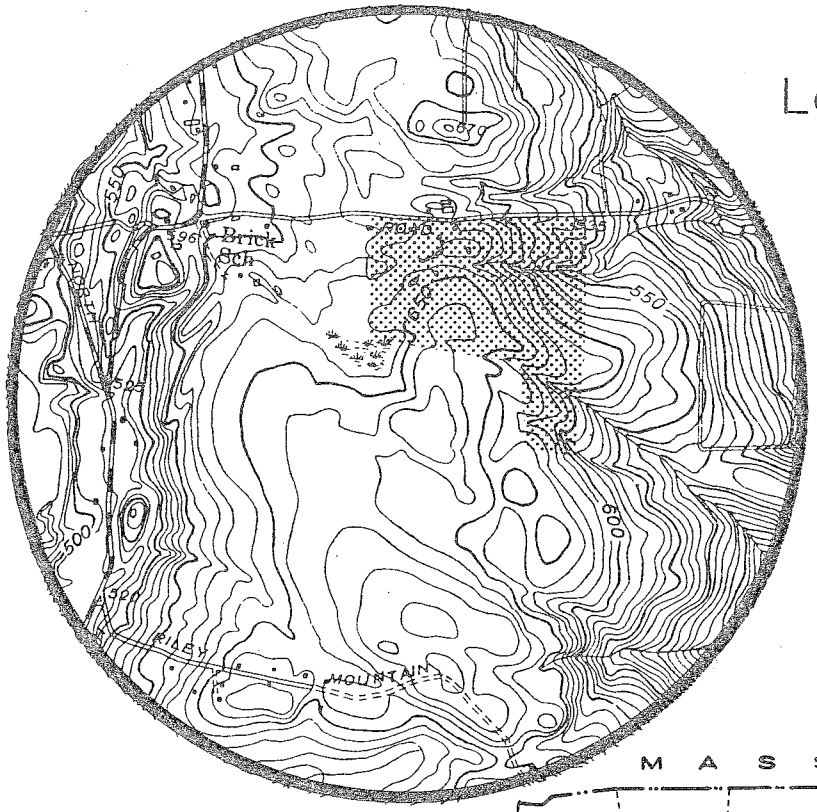


eastern connecticut resource conservation & development area

environmental review team
139 boswell avenue
norwich, connecticut 06360

Location of Study Site

FRILAND CONDOMINIUMS
ANDOVER, CONNECTICUT



EASTERN CONNECTICUT
RESOURCE CONSERVATION AND DEVELOPMENT PROJECT

ENVIRONMENTAL REVIEW TEAM REPORT
ON
FRILAND CONDOMINIUMS
COVENTRY, CONNECTICUT

This report is an outgrowth of a request from the Coventry Planning and Zoning Commission to the Tolland County Soil and Water Conservation District (S&WCD). The S&WCD referred this request to the Eastern Connecticut Resource Conservation and Development (RC&D) Area Executive Committee for their consideration and approval. The request was approved and the measure was reviewed by the Eastern Connecticut Environmental Review Team (ERT).

The soils of the site were mapped by a soil scientist from the United States Department of Agriculture, Soil Conservation Service (SCS). Reproductions of the soil survey map, a table of soils limitations for certain land uses and a topographic map showing property boundaries were distributed to all Team members prior to their review of the site.

The ERT that field-checked the site consisted of the following personnel: Joseph Neafsey, District Conservationist, SCS; Rob Rocks, Forester, Connecticut Department of Environmental Protection (DEP); Michael Zizka, Geologist, DEP; Don Capellaro, Sanitarian, State Department of Health; Meg Reich, Windham Regional Planning Agency; and Jeanne Shelburn, ERT Coordinator, Eastern Connecticut RC&D Area.

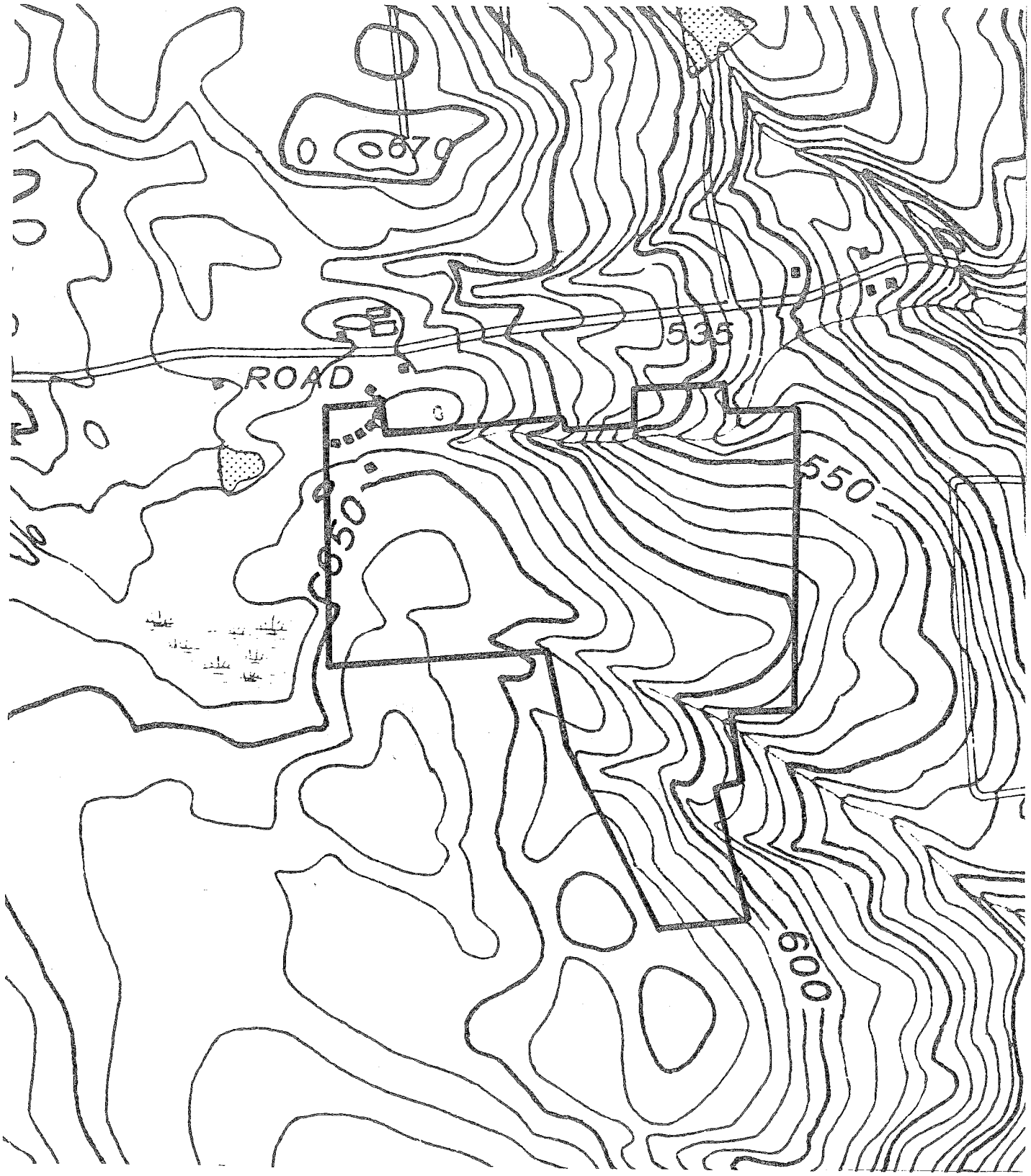
The Team met and field checked the site on Thursday, January 21, 1982. Reports from each contributing Team member were sent to the ERT Coordinator for review and summarization for the final report.

This report is not meant to compete with private consultants by supplying site designs or detailed solutions to development problems. This report identifies the existing resource base and evaluates its significance to the proposed development and also suggests considerations that should be of concern to the developer and the Town of Coventry. The results of this Team action are oriented toward the development of a better environmental quality and the long-term economics of the land use.

The Eastern Connecticut RC&D Project Committee hopes you will find this report of value and assistance in making your decisions on this particular site.

If you require any additional information, please contact: Ms. Jeanne Shelburn, Environmental Review Team Coordinator, Eastern Connecticut RC&D Area, 139 Boswell Avenue, Norwich, Connecticut 06360, 889-2324.

Topography	Site Boundary	0 660' scale	N



INTRODUCTION

The Eastern Connecticut Environmental Review Team was asked to prepare an environmental assessment for a proposed 130 unit condominium development in the town of Coventry. The 76± acre parcel is located on the south side of Merrow Road. The site is presently in the private ownership of Friland Equities, Inc. Preliminary engineering drawings have been prepared by Richard Dimmock and Associates.

The site is located in a RU-40 zone which allows single family residences on a one acre lot or condominiums at two units per acre. The property was reviewed for construction of approximately 130 condominium units and three single family homes. Four condominium units are planned for each building constructed. Individual on-site septic systems are planned for each building. On-site wells will be used for water supply. Access to the site will be provided by a single road extending south from Merrow Road, terminating in several cul-de-sacs. Parking for residents and guests will be provided along the cul-de-sac roads and in parking areas at the end of each cul-de-sac.

The site is entirely forested at present. Several steeply sloping areas run through the site, with associated watercourses and wetlands. The predominant soil type on site is the Charlton series, which is generally well drained.

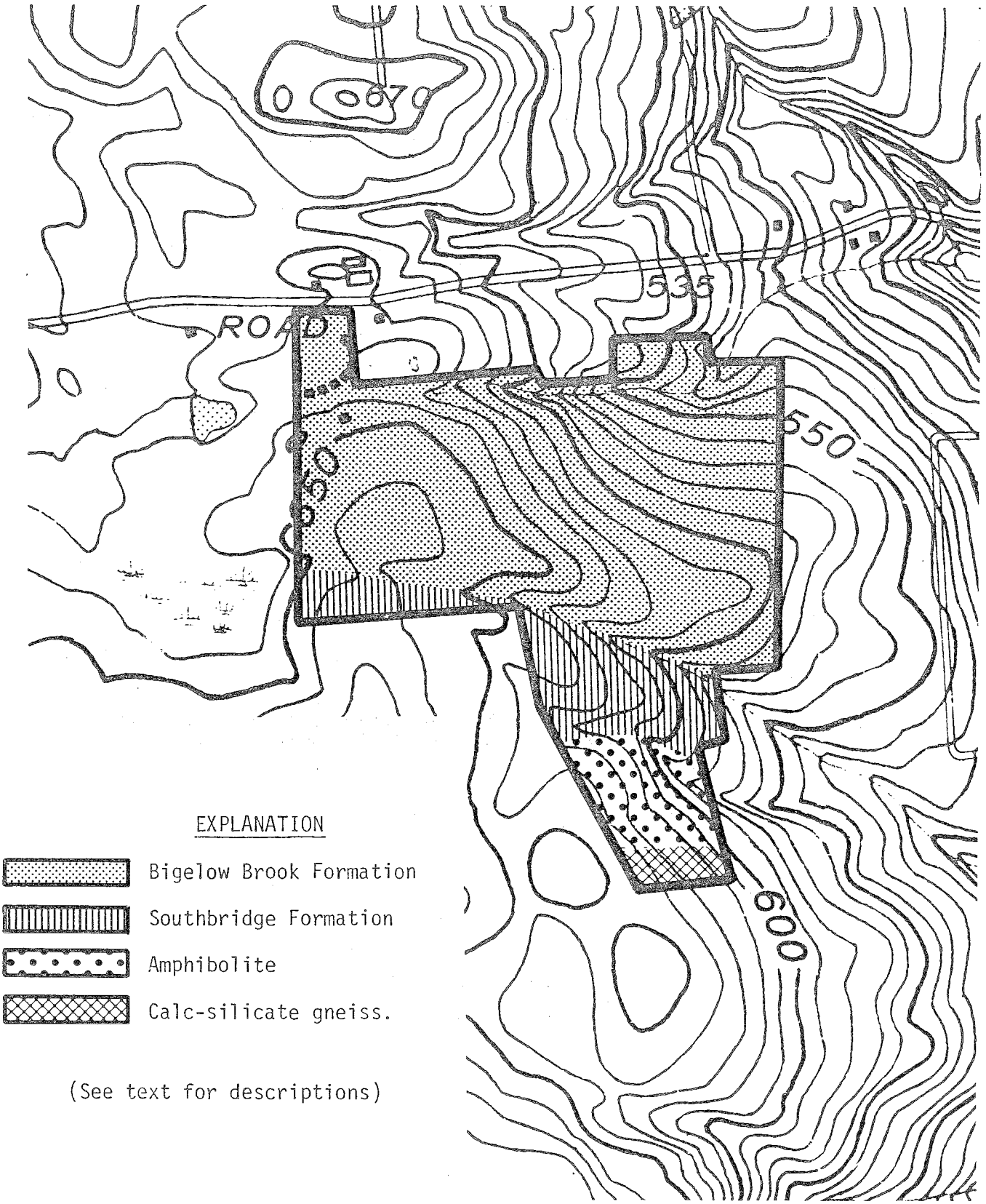
The Team is concerned with the effect of this development proposal on the natural resource base of this site. Although many severe limitations to development can be overcome with proper engineering techniques, these measures can become costly, making a project financially unfeasible for a developer. In general, the layout of this proposed development is an excellent example of consideration for natural features and development limitations of the site. However, the Team does have several areas of concern relating to the proposal. Due to the substantial increases in runoff that will be created by this proposal, detention basins and sediment trapping devices will be needed, especially in the area of the northernmost stream. Some of the septic systems are located too close to the steep slopes near the streams. This could potentially cause problems with septic effluent polluting the streams, or with proper functioning of the septic systems themselves, due to a higher groundwater table in these areas. Efforts should be made to pull these systems back from the slopes, although this may result in a reduction of units. A number of planning concerns, including road widths and length of cul-de-sacs are discussed in detail in following sections of this report.

ENVIRONMENTAL ASSESSMENT

GEOLOGY

The site is encompassed by the South Coventry topographic quadrangle. A bedrock geologic map of the quadrangle, prepared by R.J. Fahey and M.H. Pease, Jr., is on file at the DEP's Natural Resources Center in Hartford. No bedrock

Surficial Geology



outcrops were seen on the property itself, but an interpretation of local rock exposures allows one to predict the types of bedrock that underlie the site. A map accompanying this report shows those rock types. In the brief descriptions that follow, the terms "schist" and "gneiss" are used. Both terms refer to metamorphic (geologically altered) rocks. In gneisses, thin bands of elongate or flaky minerals alternate with layers of granular minerals. In schists, the alignment of elongate or flaky minerals is pervasive, giving the rock a slabby or well-layered structure. The mineral names preceding the terms "schist" and "gneiss" in the descriptions identify the major components in the order of increasing percentages within the rocks.

The predominant rock type underlying the site is classified as Bigelow Brook Formation. This unit is mostly sillimanite-garnet-biotite-feldspar-quartz gneiss and schist. About 20 percent of the formation consists of thin layers of rocks rich in amphibole minerals or calc-silicate minerals. There are some thin sulfidic schist layers, as well.

The next most abundant rock type is classified as Southbridge Formation. This unit is mostly biotite-plagioclase-quartz schist with trace amounts of calc-silicate minerals, chiefly diopside and green amphibole. About 30 percent of the rock consists of thin greenish-gray, calc-silicate-enriched layers.

A third rock type is predominantly composed of amphibolite (amphibole-rich rock). This rock has interlayers of calc-silicate-bearing gneiss, and lesser amounts of biotite schist, quartzite, and sulfidic schist.

The fourth rock unit interpreted to underlie the site is predominantly calc-silicate gneiss, containing green hornblende, calcite, diopside, plagioclase, and quartz. Paper-thin beds of biotite schist and amphibolite are also present.

The differences in the bedrock units should not have an effect on construction activities. Variations in mineralogy may have an influence on well-water quality, however. Moderate to excess concentrations of iron and/or manganese are often found in wells in the vicinity of the site. Of the bedrock types underlying the site, the Bigelow Brook Formation and the amphibolite unit are most likely to cause high concentrations of these elements.

The surficial geologic material overlying bedrock on the site is till, a glacial sediment that was deposited directly from an ice sheet. Till consists of a generally nonsorted, structureless mixture of clay, silt, sand, gravel, and boulders. The texture of till may vary greatly from place to place. Soil mapping indicates that the upper portion of the till on the property is sandy, stony, and loose. At a depth of five feet or more, or occasionally at shallower depths, the loose till may give way to a hard, compact, slightly finer-grained till.

In general, the till should pose no difficult problems for development. Stoniness is likely to be a nuisance in some areas, but steep slopes and areas of less rapid subsurface drainage are more likely to limit local development potential than the nature of the till itself. Shallow-to-bedrock conditions are not known to be present on the site, but bedrock is probably closest to the surface along the northernmost brook and in the southeastern corner of the property.

HYDROLOGY

Almost all drainage from the property flows eastward. Three streams in well-defined channels carry drainage into Willimantic River, which is located less than a mile to the east of the site. Two of the streams merge about 1,000 feet east of the site; the combined stream then flows southeastward, ultimately crossing Brigham Tavern Road and joining Willimantic River. Just before reaching Brigham Tavern Road, the stream passes through a small residential area. The third stream emanating from the Friland Equities property flows just south of Merrow Road. This stream passes along the back of a few residential lots, enters a small man-made pond, where it merges with another stream, and finally flows into Winding Brook. Winding Brook then continues southeastward, crossing Brigham Tavern Road and joining Willimantic River.

Because of the size of the proposed development, substantial increases in runoff from the site may be expected unless some provisions are made to control runoff. The town of Coventry requires that off-site flows following a development of this type be maintained at present levels. This requirement is particularly important for this development in view of the residential areas which are eventually crossed by the streams that begin on the site. Flooding problems in these areas could otherwise be aggravated, particularly on occasions when heavy rains occur while Willimantic River is in a flood stage.

The most likely resolution of the peak-flow requirement would be the installation of one or more detention basins. It might be wise to combine this function with a sediment-retention function. The present plans indicate that some construction activities would occur on relatively steep slopes. The removal of vegetation on these slopes, without careful planning, could lead to severe erosion problems. Even assuming such planning, road sand and other residential debris could be introduced into the site's storm drainage system and carried away by the receiving streams. Sediment-trapping will be most important in protecting the northernmost stream. Debris carried away by this stream would tend to be deposited in the man-made pond to the east of the property.

In general, the proposed layout of the development is an excellent example of consideration for the natural features of the property. The land seems fairly well-suited for this type of project. Nevertheless, the Team is concerned that some of the proposed facilities, particularly septic systems, are too close to the steeply sloped areas adjoining the stream channels. Any problems with those portions of the development that are on those slopes could lead to stream contamination. The slopes themselves are not the only potential problem; as one approaches the streamcourses, the water table almost certainly becomes closer to the surface. Efforts should therefore be made to pull back the developed areas from the steep slopes. This may require at least a slight reduction in the number of proposed units.

SOILS

A detailed soils map of this site is included in the Appendix to this report, accompanied by a chart which indicates soils limitations for various urban uses. As the soil map is an enlargement from the original 1,320 feet/inch scale to 660 feet/inch, the soil boundary lines should not be viewed as absolute boundaries,

but as guidelines to the distribution of soil types on the site. The soil limitation chart indicates the probable limitations for each of the soils for on-site sewerage, buildings with basements, buildings without basements, streets and parking and landscaping. However, limitations, even though severe, do not preclude the use of the land for development. If economics permit large expenditures for land development and the intended objective is consistent with the objectives of local and regional development, many soils and sites with difficult problems can be used. The soils map, with the publication Soil Survey, Tolland County, Connecticut, can aid in the identification and interpretation of soils and their uses on this site. Know Your Land: Natural Soil Groups for Connecticut can also give insight to the development potentials of the soils and their relationship to the surficial geology of the site.

The predominant mapping unit on the site is Charlton very stony fine sandy loam, 3-15% slope (CrC). Field inspection of the site indicates that there are several inclusions of poorly drained (wetlands) and moderately well drained soils or soils on somewhat steeper slopes. These inclusions are located on either side of the three intermittent stream corridors which run from west to east and eventually drain into the Willimantic River via Winding Brook. The inclusion soils were not shown on the SCS field sheet because of scale limitations. It is strongly suggested that the developer obtain the services of a private soil scientist to prepare a detailed soils map for this site. On request, Tolland County SCS field office can review this map for adequacy and prepare appropriate interpretations for the site. Specifying the locations of wetlands, moderately well drained soils, watercourses and sloping areas on the plan map is essential for planning and evaluating this proposal.

Based on field inspection of the area and preliminary review of the proposed plans, the site appears to have good potential for successful residential development. The following concerns should be addressed in developing a final proposal for the area.

Sediment and Erosion Control.

The site is close to watercourses and drainageways. Uncontrolled runoff and erosion of disturbed areas could lead to silt contamination of streams and off-site water bodies. A sediment and erosion control plan should be developed and implemented. The plan should be reviewed and approved by the Tolland County Soil and Water Conservation District.

Stormwater Management.

The increase in impervious surfaces due to construction of roads, buildings, and site clearing, and the redirection of water due to site grading will cause increases in the peak flow of stormwater from the area. In order to minimize the impact of increased and/or concentrated runoff, a stormwater management plan should be developed. The plan should provide for the installation of diversions, waterways, outlets, drop structures, retention basins or other engineering structures where needed, either before or during land grading. This plan should be integrated into the overall conservation plan for the project.

It is suggested that the developer follow the outline found on pages 6-10 of the Connecticut Erosion and Sediment Control Handbook in developing a project

conservation plan. This plan should be reviewed and approved by the Tolland County Soil and Water Conservation District prior to the construction phase.

Site Preparation.

Careful planning should precede preparation of the site for construction. The area is predominately a mature hardwood forest with scattered conifers and a limited understory. When clearing the site, the healthiest and most actively growing trees should be retained as shade trees and protected during construction. Removing mature, weak or diseased trees will open up the canopy and allow shrub and seedling growth in the understory. A good opportunity exists at this time to increase the wildlife value of the area by underplanting open spaces with conifer seedlings and fruiting shrubs. Edge areas (between woods and lawns and behind residences) will especially benefit from this type of planting. A consulting forester or landscape architect can prepare a site preparation plan, mark trees to be retained and protected, and develop a planting plan for the use of the developer or future homeowners association.

FOREST RESOURCES

The 76 acre parcel proposed for subdivision may be divided into five vegetation types. These include two mixed hardwood stands which total approximately 70 acres; hardwood swamp/streambelt areas which total $3\pm$ acres; an old field area which totals $2\pm$ acres; and open field areas which total $1\pm$ acre.

Vegetation Type Descriptions:

Type A. (Mixed Hardwoods) This $46\pm$ acre over-stocked stand is made up of pole to small sawtimber-size black oak, white oak, red oak, shagbark hickory, pignut hickory, red maple, black birch and occasional American beech. Many of the trees in this stand are declining in health and vigor due to their crowded condition. Witch hazel, maple-leaved viburnum, highbush blueberry, blue beech, white pine seedlings, American chestnut sprouts and hardwood tree seedlings form the understory in this area. Ground cover consists of huckleberry, club moss, striped pipsissewa, rattlesnake plantain and Pennsylvania sedge.

Type B. (Mixed Hardwoods) Sapling-size black birch, eastern white pine, white oak, black oak, red maple, gray birch and patches of bigtooth aspen dominate this over-stocked $24\pm$ acre stand. Small sawtimber-size white oak, red oak, black birch, shagbark hickory and red maple are scattered throughout, creating a two aged stand. Many of the larger trees are healthy and of high quality. The understory in this stand is made up of blue beech, highbush blueberry, witch hazel and hardwood tree seedlings. Club moss, partridge berry, striped pipsissewa, aster, and Pennsylvania sedge form the ground cover in this area.

Type C. (Hardwood Swamp/Streambelt) Approximately three acres of hardwood swamp are present within this tract. These areas are restricted to the streambelt zones which are present on the southern portion of this property. Pole to sawtimber-size red maple of poor quality dominate these over-stocked areas along with scattered yellow birch and white ash of somewhat higher quality. A dense understory of spice bush, sweet pepperbush and highbush blueberry is present throughout. Ground cover is made up of poison ivy, green brier, club moss, skunk cabbage and barberry.

Vegetation

0 660'
scale

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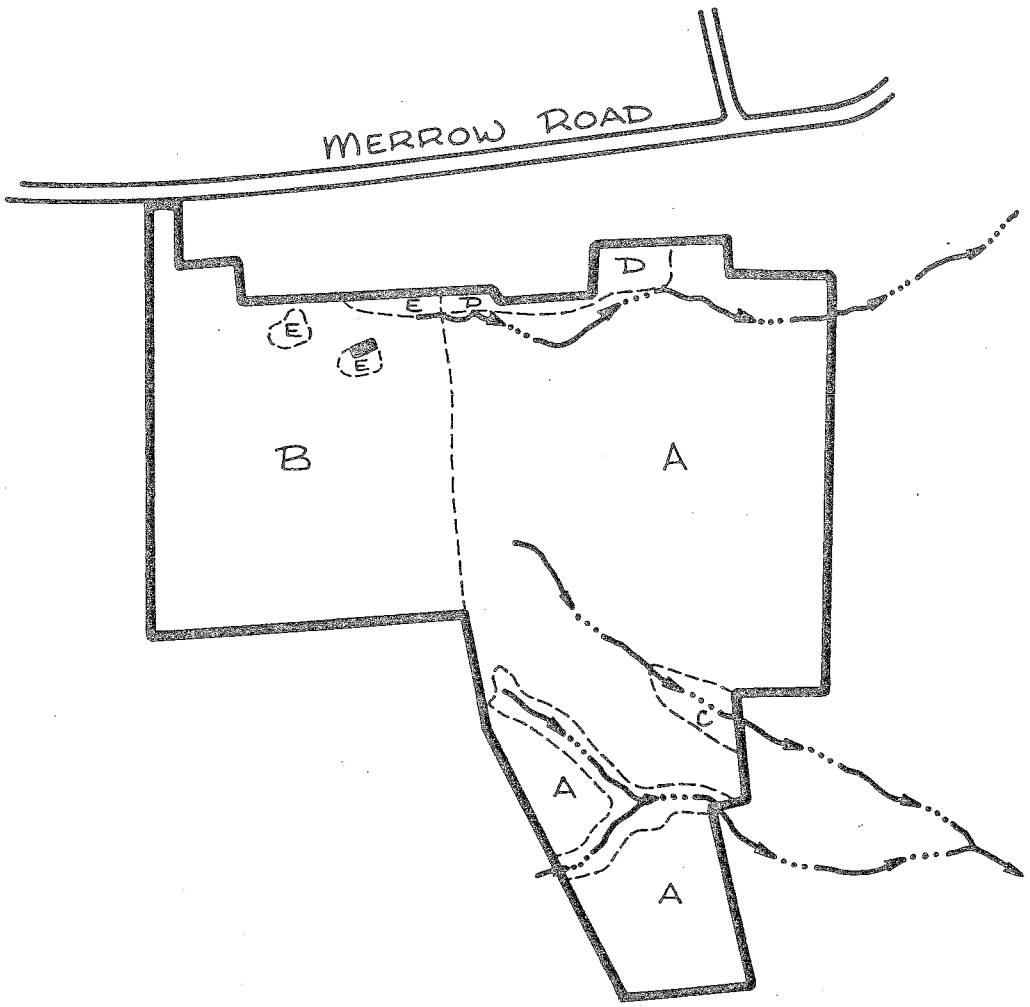

LEGEND

- Road
- Property Boundary
- Vegetation Type Boundary
- Stream
- Old Barn

VEGETATION TYPE DESCRIPTIONS*

TYPE A. Mixed hardwoods, 46±acres, over-stocked, pole to small sawtimber.

TYPE B. Mixed hardwoods, two aged, 24±acres, over-stocked, sapling and small sawtimber-size.

TYPE C. Hardwood swamp/stream belt, 3±acres, over-stocked, pole to sawtimber-size.

TYPE D. Old fields, 2±acres, fully-stocked, sapling-size.

TYPE E. Open field, 1±acre.

* Seedling size = Trees less than 1 inch in diameter at 4 1/2 feet above the ground (d.b.h.)
Sapling-size = Trees 1 to 5 inches in d.b.h.
Pole-size = Trees 5 to 11 inches in d.b.h.
Sawtimber-size = Trees 11 inches and greater in d.b.h.

Type D. (Old Field) Sapling-size red cedar, bigtooth aspen, red maple, and gray birch are present in this 2± acre fully-stocked area. The shrub species which are present include highbush blueberry, alternate leaved dogwood, maple-leaved viburnum, and barberry. Ground cover consists of poison ivy, club moss, grasses, Pennsylvania sedge and aster.

Type E. (Open Field) Three small open fields which total approximately one acre are present along the northern boundary of this property. They are vegetated with staghorn sumac, multifora rose, sweet fern, bayberry and scattered seedling-size eastern red cedar. The herbaceous vegetation which is present includes grasses, goldenrod, Queen Anne's lace, milkweed and poison ivy.

Many of the large healthy trees which are scattered throughout both Vegetation Types A and B have high aesthetic and shade value. As many as possible of these high value trees should be selected for retention and worked into the final site plan for the proposed development.

It should be noted that trees are very sensitive to the condition of the soil within the entire area under their crowns. Development practices near trees such as excavation, filling and grading for construction of roadways and buildings may disturb the balance between soil aeration, soil moisture level and soil composition. These disturbances may cause a decline in tree health and vigor, potentially resulting in tree mortality within three to five years. Mechanical injury to trees may cause the same results. Dead trees reduce the aesthetic quality of an area and may become hazardous and expensive to remove if near roadways, buildings or utility lines.

Care should be taken during the construction period not to disturb the trees that are to be retained. In general, healthy and high vigor trees should be favored for protection over unhealthy trees because they are usually more resistant to the environmental stresses brought about by construction practices.

Where feasible, trees should be retained in small groups or "islands." This practice lowers the possibility of soil disturbance and mechanical injury. Individual trees and "islands" of trees should be temporarily, but clearly marked so they may be avoided during construction.

The loss of trees due to windthrow is a potential hazard in the hardwood swamp/streambelt areas (Vegetation Type C). In these areas, the soils are saturated with water causing soil aeration to be poor. These conditions result in unstable, shallow root systems which are unable to securely anchor trees. Trees which are crowded and rely on each other for stability have an even greater potential for windthrow problems and top breakage. These conditions may be intensified if linear openings, which allow wind to pass through rather than over these areas, are made. Openings and clearings in and along side these wetland areas should be avoided if at all possible. Light thinnings in these areas may, however, help to improve tree stability.

Evidence of gypsy moth infestation is apparent throughout this entire tract. Egg masses were observed in high numbers in both Vegetation Types A and B, however, many seemed to be parasitized. The extent and effect of future gypsy moth defoliations are difficult to predict. It is possible for two successive defoliations to severely stress decidous trees, allowing secondary insect and disease infestation to cause mortality. Thinnings which reduce the crowded condition and eventually allow trees to become healthier and more vigorous should lessen the chance of widespread mortality started by gypsy moth infestation.

Management Considerations.

Trees which are unhealthy and not growing vigorously due to crowded conditions are most susceptible to further degradation from environmental stresses brought about by development, disease, insect infestation and adverse weather conditions. Improvement thinnings, which remove undesirable trees and reduce competition for space, sunlight, nutrients and water between the high quality residual trees will, over time, allow trees to improve in health, vigor, and stability. These thinnings when implemented properly can improve the aesthetic value of an area, improve tree health and vigor, improve wildlife conditions and provide wood products.

The trees which are present in Vegetation Types A and C are declining in health and vigor as a result of their crowded condition. Under these circumstances, the trees are under stress and major disturbances in their environment, such as changes in soil conditions and mechanical injury caused by construction in these areas, may rapidly lower their health. A small-sawtimber or fuelwood thinning in Vegetation Type A, following the "crop tree selection method" preferably prior to development of this property would help to reduce the crowded condition and improve tree health and vigor.

Under the "crop tree selection method," 100 of the highest quality trees in each acre should be identified (trees spaced about 20' x 20' will equal 100 trees per acre), and one, two, or three trees that are in direct competition with each of those identified should be removed. The 100 trees per acre that are selected as crop trees should be healthy, large crowned, and show little or no signs of damage. Trees which are not competing with the 100 selected trees should not be removed, unless they are severely damaged.

A light thinning, which removes approximately one-fourth of the trees in the overstory, would help improve residual tree health and stability. This thinning should be focused on the removal of damaged and low quality trees. Yellow birch and white ash should be favored for retention over the red maple. Thinnings in the hardwood swamp areas should be limited to time of the year when the ground is frozen or completely dry to avoid soil damage (i.e., rutting). Extreme care should be taken not to damage stream beds. If a small sawtimber thinning is implemented in Vegetation Type A, it is important that the highest quality trees be retained in the residual stand for their aesthetic value. Removal of the tops for utilization as fuelwood will also help to improve aesthetics after the harvest.

Although the sapling-size trees in Vegetation Type B (Mixed Hardwoods) are crowded, their small size reduces the feasibility of a fuelwood thinning at this time.

The trees that are to be removed from areas that will be completely cleared for construction of the proposed complex should be utilized for fuelwood and, where feasible, as sawtimber.

The open fields which are located along the northern boundary of this parcel could be planted with conifers. Eastern hemlock and white pine, if planted in several staggered rows approximately eight to ten feet apart, will eventually produce an effective vision barrier between this complex and the single family residences along Merrow Road.

A public service forester or private forester could be contacted to help with the implementation of the suggested thinnings. They could also help select the high quality trees which should be retained, so that the aesthetic integrity of the area is not lowered.

WATER SUPPLY

The water supply for the development would undoubtedly be drawn from bedrock-based wells. One or more such wells in or near the northwestern corner of the site reportedly have produced relatively high yields. Most bedrock wells yield 20 gallons per minute (gpm) or less, and of those wells tapping metamorphic rocks in Connecticut, less than half attain yields of even 10 gpm. The Team was informed that a well near the northwestern corner of the site had a reported yield of 50 gpm. The duration of the pump test for that yield was not known. The developer should conduct a pump test of several days or weeks to determine what the sustainable yield of that well is. Even if the sustainable yield is only 30 gpm, the well may still be sufficient to supply the needs of the development, assuming adequate water-storage facilities are also provided. The developer estimates an average demand of 24 gpm, a peak demand of 125 gpm, and a storage requirement of 10,000 gallons.

The water quality should be good. As explained in the Geology section of this report, some of the rock layers may give undesirably high concentrations of iron or manganese. In addition, the rock units having sulfidic schist layers may produce high sulfide concentrations. The sulfide would be recognizable by its foul smell and the iron or manganese by its reddish or blackish staining qualities. Filters are available to remove most undesirable mineral-induced concentrations of elements in well water.

It is noted the nearest community (public) water system to the property in question is located about 3/4 of a mile to the north and serves the Coventry Hills Development. As the proposed water supply would constitute a public system, site location for the well(s), yield test information, water quality and subsequent plans for pumpage, storage, possible treatment, and distribution will need to be coordinated, reviewed and approved by the Water Supplies Section of the State Department of Health Services.

WASTE DISPOSAL

As municipal sewers are not available, the development would be served by a number of on-site subsurface sewage disposal systems. It is noted the consulting engineer has prepared a very preliminary layout for sewage disposal for the condominiums in a cluster arrangement with individual systems to serve each building that would primarily have four units. As such, there would be a total of thirty-four separate systems. The house lots, no doubt, would have individual systems.

Based on soil mapping data (no soil testing information was available at the time) the entire property consists of Charlton-Hollis soil series with slight to moderately steep slopes. As was observed and is indicated on the topographic map, a large extent along the front portion of the property would not be suitable for sewage disposal due to the watercourse and steep embankment. Likewise, the portion which extends out towards the rear would have limitations due to the

watercourses which cross the land and the sloping terrain. The most feasible portion does appear to be the central part of the property, particularly the upper and more level land areas. However, it is essential that detailed on-site testing for ground water levels, percolation and permeability rates and particularly for underlying bedrock be made of the areas indicated for possible sewage disposal. The Hollis soils, although well drained, have major limitations of rock outcrops and depth to bedrock. This coupled with slope could cause potential problems downgradient. In addition to health department requirements, the Department of Environmental Protection would need to test and review the disposal locations for hydraulic and renovation capabilities. A permit to discharge would also be needed from DEP.

In general, the density of the proposed project may very well warrant some modifications as to site limitations and the availability of sufficient suitable area for sewage disposal purposes.

COMPATIBILITY WITH SURROUNDING LAND USES

The site proposed for condominium development is adjacent to property which is virtually undeveloped on three sides. The fourth side, roughly parallel to Merrow Road, abuts existing single family home development on Merrow Road.

The overall area (neighborhood) surrounding the site is rapidly being developed and suburbanized in single family home, standard subdivision developments. Recent subdivisions off or near Merrow Road have included Geraldine and Deborah Drives (1970-76), across the street from this proposed development; Lancaster and Anterim Roads (Brigham Estates 1 and 2) off Brigham Tavern Road, just south of the elbow turn in Merrow Road.

A new subdivision is currently under development on the north side of Merrow Road, east of this proposed development, Ridgebrook Estates, and a new subdivision on Goose Lane - Old Town East is being developed.

The attached unit condominium development proposed for this site will introduce a 'new,' different, and potentially compatible form of suburban development into that area of Coventry, as single family home development is currently the predominant form of land use. The overall density of development proposed (and allowed in this RU-40 zone) is two units per acre, twice that allowed for single family development. The 134 condo units in this 76 acre site (1.7 units/acre) are planned as four units to a building, clustered in groups of buildings along and at the end of five private cul-de-sac streets.

The "Designed Apartment District" zoning regulations which apply in this case, require adequate screening to "conceal the project from adjacent streets and properties, thereby providing for a transition from adjacent land uses of different character." (See 17.4 B.)

Further, all buildings and parking areas are required to be set back a minimum of 75' from all property lines.

With these provisions, the proposed layout of the development, compatibility with surrounding land uses should be assured. (However, it should be noted that, as drawn in the plan dated 1/20/82, two of the single family homes and a few of the condominium units do not quite meet the 75' setback requirement.)

ROADS AND TRAFFIC CONCERNS

The proposed development will be accessible from Merrow Road, utilizing approaches from Goose Lane, River Road North, Merrow Road, or Brigham Tavern Road.

The recent suburbanization of this area of Coventry already requires the upgrading of local roads.

Both Goose Lane and Brigham Tavern Road are recommended to be widened and realigned in the 1981 Update of the Regional Transportation Plan for the Windham Region.

Traffic generated by this proposed development as well as other recent residential developments in the area, will exacerbate the need to upgrade these roads as soon as possible.

This development as well as a number of recent and new developments on Merrow Road will increase traffic volumes on Merrow Road. Between where Winding Brook crosses Merrow Road and the intersection of Merrow Road and Brigham Tavern Road, there is inadequate road drainage, as indicated by the amount of ice build-up found on the road on the date of this site inspection. With or without this new development, that problem should be remedied.

In 1980, Coventry residents on the average, had .531 registered cars per person,* or the third highest number of cars per person in the ten town Windham Region.

If the units are constructed, as planned, for an average of 2.75 persons/unit, then 195 cars can be expected for the development (2.75 people/unit x .531 cars/person x 135 units = 195 cars for the development).

The expected number of cars will vary according to what type of people purchase or live in the units; married working couples or couples with families could be expected to have two or three vehicles, while single people and retired couples might only own one vehicle.

The average number of trips expected from condominiums** in rural areas without public transit are 5.7 trips per unit per day for occupant-owners and 4.8 trips/unit/day for occupant-leasee's.

Assuming all the units to be occupied by owners, then the maximum number of vehicle trips attributable to the proposed development would be 764 trips/day (134 units x 5.7 trips/unit/day).

Current accident statistics kept by the Coventry Police Department indicate virtually no roads or intersections surrounding the development create hazardous road conditions.

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* Transportation Planning Data for the Windham Region, WRPA, June, 1981.

** Trip Generation Study of Various Land Uses - Supplement A, Israel Zevin, CONNDOT, March, 1975.

Speeding violations in the area, however, indicate potential need for remedy, especially if traffic volume is due to increase. Signalization or enforcement programs may be the only improvements needed.

The development is proposed to have one common collector road to be dedicated to the town from Merrow Road, winding into the parcel. All the condominium units are proposed to be developed along roads proposed to be private rather than town roads.

The collector road is proposed to be a cul-de-sac with potential future extension into an adjoining property anticipated to be developed in coming years.

The future road right-of-way crosses land in this proposed development which is to be designated as open space. Care should be taken to designate that future right-of-way and not include that area in the open space calculations or land dedication. Alignment of that future right-of-way also needs to be carefully coordinated with the adjacent land owner and that person's development plans, and the topography of that adjacent site.

The proposed cul-de-sac collector road is longer than regulations currently allow, although extensions may be granted. Extension should be granted only with the approval of the town fire marshal. Further extension of this collector road with adjoining property should provide through-street access, rather than simply further elongating the cul-de-sac. Part of the purpose in limiting the length of cul-de-sac or dead-end streets is to minimize fire and safety hazards which could be created if such a street with only one access point were blocked off (flooding, accidents, felled trees, bridge out, etc.).

By requiring short dead-end streets or streets with two access points, accessibility to all properties along a road is better insured.

The developer proposes private roads because:

1. parking is not allowed on town roads in new subdivisions,
2. parking for the condo units could be accommodated on private roads,
3. private roads could be paved to more narrow width than could town roads (thus saving development costs while also potentially yielding more space for yards and open space.)

Private roads are common within condominium and apartment developments but caution must be taken in their design and use so as not to create fire and safety hazards.

Reduced pavement width requirements, and allowing parking along the private roads, reduces overall travel surface area available. In winter, snow plowing practices often further reduce available travel area of the paved surface. In such a cumulative case, one further obstruction could reduce travel area to zero. If, for example, (as the Team regional planner experienced twice this winter in her apartment complex, with just such circumstances) one or more cars become disabled, icebound or abandoned, no vehicle movement whatsoever can take place. Traffic can be obstructed for any length of time, from minutes to hours.

If emergency vehicles (fire, police, ambulance, rescue) need access to buildings where the only road access is thus obstructed, valuable time will be wasted clearing the obstructions. In that time, buildings can burn and people die. What legal ramifications are there here regarding liability?

Town roads with wider paved surfaces and off-street parking would minimize the possibility of such hazardous circumstances. Private roads paved to the minimum width allowed, while their rights-of-way are cleared, graded and maintained to support emergency vehicle access, can also minimize potential hazards. The rights-of-way need only be regularly cleared of trees, rocks, snow and other obstructions to a width comparable to the paved surface or paved surface and shoulder width of town roads to accomplish the same effect.

Legal responsibilities for such maintenance should be included in the condominium association's by-laws and/or contracts.

SERVICES TO SUPPORT DEVELOPMENT

The proposed 134 condominium and three single family home development will cause an increase in the town's population of 377 people if it is assumed 2.75 persons will occupy each unit (septic systems designed for such an occupancy level).

The proposed development is located in the Northeastern section of Coventry. Shopping facilities are not particularly close nor unreasonably far removed from the site. Grocery, banking and post office facilities in North Coventry (Junction Routes 44A and 31) are about three miles away; Mansfield's 4-Corners shopping and banking facilities at Junction 44A and 195 are 4 1/2 miles away; Coventry's service district and center of town in South Coventry is also about 4 1/2 miles away.

Schools which would serve the development are the high school on Ripley Hill Road; junior high - Captain Nathan Hale School - on Route 31, next to the high school; and Coventry Grammar School on Route 31 in North Coventry (grades K-4). Capacities and current enrollment is as follows:

School	Grade	Capacity	February 1, 1982 Enrollment
Robertson	K-4	300	263
Coventry Grammar	K-4	455	377
Nathan Hale	5-8	800	603
Coventry High	9-12	800+	503

SOURCE: Office of School Superintendent/Coventry

The impact of this development on the school system in Coventry is difficult to determine. The number of pupils to be anticipated per unit will depend upon a number of factors including: price of units, number of bedrooms, the type of families who live in the units (single, career couples, retired, families, etc.).

Coventry participates in a mutual aid pact with adjacent towns for fire fighting support. The North and South Coventry volunteer fire departments as well as the Tolland fire department respond to fires in the Merrow Road area. Water for fire fighting is supplied by fire ponds and/or tank trucks.

Fire fighting water supply for this development is preliminarily proposed to be a tank/reservoir, one main 6" water line and hydrants. A Fire Control Plan is required under Designed Apartment District section 17.5H. Some appropriate water supply will be necessary.

Response time for fires in this area is poor according to fire officials - 10 to 12 minutes. There has been discussion of siting a new substation on town land at Laidlaw Park near the intersection of Goose Lane and Merrow Road.

Preliminary plans for this condominium development indicate that two acres are proposed to be dedicated to the town for a fire station. A substation at either site could provide improved response time for fire fighting facilities. The more appropriate site should ultimately be chosen by fire and town officials.

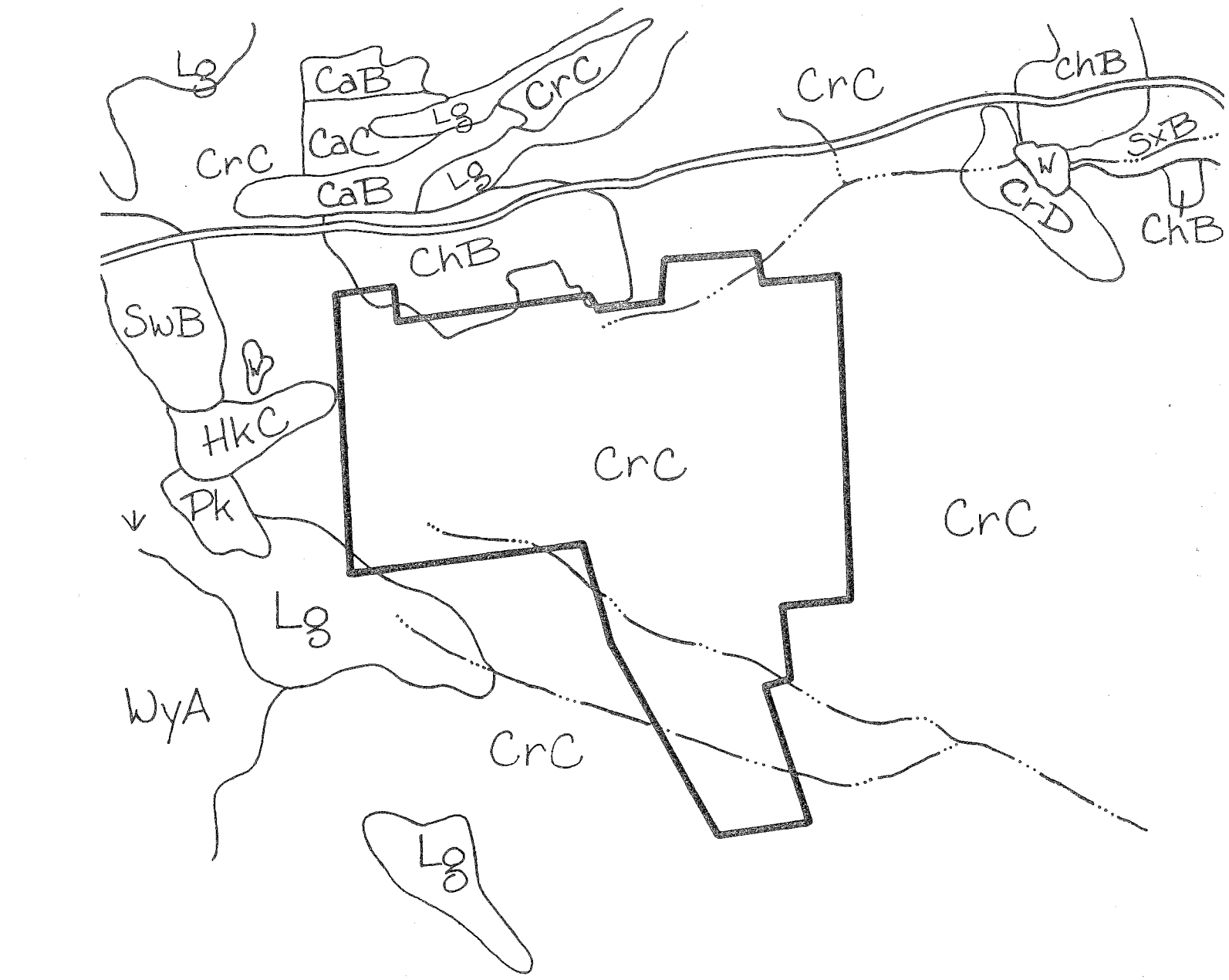
ALTERNATIVE LAND USE

This site lends itself well to the type of attached unit condominium development proposed. The site is not so unique as to recommend it be left undeveloped or become a park.

A detached single family home development could be an alternative land use for this site. However, the diversification and alternative housing stock created by this condominium development will help to provide alternative housing opportunities to the detached single family home development which is predominant in Coventry.

Appendix

Soils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FRI-LAND CONDOMINIUMS
COVENTRY, CONNECTICUT

PROPORTIONAL EXTENT OF SOILS AND THEIR LIMITATIONS FOR CERTAIN LAND USES

Soil Series	Soil Symbol	Approx. Acres	Percent of Acres	Principal Limiting Factor	Urban Use Limitations*			
					On-Site Sewage	Buildings with Basements	Streets & Parking	Land-Scaping
Charlton-Hollis	CrC	76	100%	Slope, Depth to Bedrock				
Charlton Part					2	2	2	2
Hollis Part					3	3	3	3

LIMITATIONS: 1 = Slight; 2 = Moderate; 3 = Severe

SOIL INTERPRETATIONS FOR URBAN USES

The ratings of the soils for elements of community and recreational development uses consist of three degrees of "limitations:" slight or no limitations; moderate limitations; and severe limitations. In the interpretive scheme various physical properties are weighed before judging their relative severity of limitations.

The user is cautioned that the suitability ratings, degree of limitations and other interpretations are based on the typical soil in each mapping unit. At any given point the actual conditions may differ from the information presented here because of the inclusion of other soils which were impractical to map separately at the scale of mapping used. On-site investigations are suggested where the proposed soil use involves heavy loads, deep excavations, or high cost. Limitations, even though severe, do not always preclude the use of land for development. If economics permit greater expenditures for land development and the intended land use is consistent with the objectives of local or regional development, many soils and sites with difficult problems can be used.

Slight Limitations

Areas rated as slight have relatively few limitations in terms of soil suitability for a particular use. The degree of suitability is such that a minimum of time or cost would be needed to overcome relatively minor soil limitations.

Moderate Limitations

In areas rated moderate, it is relatively more difficult and more costly to correct the natural limitations of the soil for certain uses than for soils rated as having slight limitations.

Severe Limitations

Areas designated as having severe limitations would require more extensive and more costly measures than soils rated with moderate limitations in order to overcome natural soil limitations. The soil may have more than one limiting characteristic causing it to be rated severe.

About the Team

The Eastern Connecticut Environmental Review Team (ERT) is a group of professionals in environmental fields drawn together from a variety of federal, state, and regional agencies. Specialists on the Team include geologists, biologists, foresters, climatologists, soil scientists, landscape architects, archeologists, recreation specialists, engineers and planners. The ERT operates with state funding under the supervision of the Eastern Connecticut Resource Conservation and Development (RC&D) Area.

The Team is available as a public service at no cost to Connecticut towns.

PURPOSE OF THE TEAM

The Environmental Review Team is available to help towns and developers in the review of sites proposed for major land use activities. To date, the ERT has been involved in reviewing a wide range of projects including subdivisions, sanitary landfills, commercial and industrial developments, sand and gravel operations, elderly housing, recreation/open space projects, watershed studies and resource inventories.

Reviews are conducted in the interest of providing information and analysis that will assist towns and developers in environmentally sound decision-making. This is done through identifying the natural resource base of the project site and highlighting opportunities and limitations for the proposed land use.

REQUESTING A REVIEW

Environmental reviews may be requested by the chief elected officials of a municipality or the chairman of town commissions such as planning and zoning, conservation, inland wetlands, parks and recreation or economic development. Requests should be directed to the Chairman of your local Soil and Water Conservation District. This request letter should include a summary of the proposed project, a location map of the project site, written permission from the landowner allowing the Team to enter the property for purposes of review, and a statement identifying the specific areas of concern the Team should address. When this request is approved by the local Soil and Water Conservation District and the Eastern Connecticut RC&D Executive Council, the Team will undertake the review on a priority basis.

For additional information regarding the Environmental Review Team, please contact Jeanne Shelburn (889-2324), Environmental Review Team Coordinator, Eastern Connecticut RC&D Area, 139 Boswell Avenue, Norwich, Connecticut 06360.